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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,008	01/11/2002	Reed J. Blau	1082-035	5219

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EXAMINER

MILLER, EDWARD A

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,008

Applicant(s)

BLAU, REED J.

Examiner

Edward A. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-73 is/are pending in the application.
- 4a) Of the above claim(s) 11-14, 20, 21, 23-65 and 68-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 16-19, 22 and 66-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☒ Interview Summary (PTO-413) Paper No(s) 16.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. Applicant's election without traverse of Group I in Paper No. 10 is acknowledged. Further, in a telephone interview on October 27, 2003, Mr. Walkowski perfected the election of species to be Example 1 of Table I of the specification on page 16, and further in detail on page 13 of the specification. Claims 11-14, 20, 21, 23-65 and 68-73 stand withdrawn as drawn to a non-elected species or group of invention.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-10, 16-19, 22 and 66-67 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description or the enablement requirements. The claim(s) contains subject matter which was not described or enabled in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

In the broader of these claims, the claims were amended by cancellation of terms that limited the claims, claim 1 most particularly. Certain of the claims, such as claims 2-3, e.g., do not cause any problem in and of themselves, but they depend from claims containing new matter. Further, while claim 2 fixes the problem as to KN, this claim is still present in the perchlorate and organic crystalline particles part thereof. The specification (and originally filed claims) were limited to certain nitrates, e.g., whereby the cancellation of the descriptive ammonium and alkali metal requirement leaves the claims open to nitrates of all metals, non-metals, non-metal complexes, etc., all of which are not disclosed, and the utility and thus enablement of which are speculative at best.

The broadened language, each word *arguendo* having basis, is such that the new concept, or the new expression as a whole, lacks original basis, when fairly viewed in context. Compare *In re Oda*,

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170 USPQ 268, and *Ex part Grasselli*, 231 USPQ 393, as well as MPEP 706.03(o) and 2163-2163.06, where departures (including from cancellations, where each word has basis, but not the expression) from the original disclosure are new matter. Also, as to ranges of ingredients, see *Ex parte Jackson*, 110 USPQ 561. The aspect of the ranges of ingredients relates to the organic particles, which now is problematic as to the amounts for the cancelled salts of the organic particles. Applicants have not pointed out the basis for the new matter, and none is apparent. Applicants are required to cancel the new matter, or to convincingly point out the basis therefore.

4. Claims 1-10, 16-19, 22 and 66-67 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for organic crystal particles such as phenolphthalein, does not reasonably provide enablement for all organic crystalline particles. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

It is clear that almost all organic particles may be used in the explosive and pyrotechnic arts, and that such are very diverse, in identity and in kind. While the disclosure appears adequate for the organic crystalline particles such as in claim 10 and in specification paragraph 0011, the broad claim language also is generic to organic explosive crystalline particles such as HMX, RDX, and CL-20, to organic crystalline particles such as naphthalene, anthracene, and so forth usually used in hybrid propellants, to organic crystalline particles such as sugars, starches and cellulose, and so on. The list of organic crystalline materials is essentially unlimited. However, the disclosure of suitable materials is very limited in scope and kind. Thus, the extent and operability of the vast number of organic crystalline particles is very much in doubt, such as to require undue experimentation. See MPEP 2164.06, e.g., excerpted as follows:

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Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988). See also *United States v. Teletronics, Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) ("The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.").

Although claim 10 is not in and of itself problematic, such claims are dependent on broad claims that are problematic, and might contain additional such crystalline particles which are problematic, e.g., not adequately disclosed as set forth above. The cited prior art is referred to generally for its teachings on only a few of the vast numbers of organic compounds used in the art, and with particular notice of Hawley, including ascorbic acid, cyclonite, cyclomethylcaine, cyclopentamine hydrochloride, erithorbic acid, nitroguanidine, 2-nitro-2-methyl-1,3-propanediol, nitron, alpha-nitronaphthalene, nitrophenide, starch, etc., recited as crystals of one kind or another.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9, 16-19, 22 and 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coiffe '476, Lundstrom et al. '269, Garner '253 and Kim, '755, in view of Barry et al. '073, Fey '785, and Walker et al. '574.

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Coiffe '476 (organic acids bridging col. 1-2), Lundstrom et al. '269 (AZODN, col. 10, Tables 6 and 7, "(5)" in col. 11 and "(9)" and "(11)" in col. 13), Garner '253 (starch, col. 2, lines 40-45) and Kim, '755 (nitramines, col. 1, lines 35-43) each teach compositions which contain oxidizer(s) and fuel. The compositions include various organic fuels which are either taught as crystalline, or are inherently crystalline. Further, the taught oxidizers include KN and KP, e.g. Use of a mixture of KN and KP would have been obvious. Further, use of the usual additives such as notoriously well known and taught binders, including polyvinyl acetate, would have been obvious. The four primary references are to illustrate the breadth and divergence in kind of only a few of the too numerous to recite, possible, organic crystalline materials that may be used in pyrotechnic compositions. To the extent not taught in the primary references, the secondary references clearly teach variation of particle size, including Walker et al. at col. 6, lines 1-15. In Fey et al., note col. 4, lines 12-30. In Barry et al., see col. 2, lines 30-35, and 51-68, as well as the paragraph bridging col. 3-4. Variation of particle size and specific ingredients would have been obvious to one of ordinary skill in the art. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

7. Claims 1-10, 16-19, 22 and 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wise et al. H72 in view of Weber '691, Lundstrom (and et al.) '638, '929 and '269, and Fey '875.

Wise et al. teach the use of phenolphthalein as a fuel replacement in pyrotechnic compositions comprising fuel and oxidizer. In Weber '691, "Table 1" in col. 13 teaches various amounts of the fuel, with KN oxidizer, e.g. Lundstrom '638 in col. 6, lines 5-25, multiple oxidizers may be used, including KP and KN, and further, a binder of polyvinyl acetate is taught at col. 6, line 64. The materials are taught to be ground, as at col. 7, lines 63-65. Fey '875 teaches that the fuel,

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col. 4, lines 12-30, may be ground to a fine particle size, as claimed in the instant claims. Lundstrom et al. 929 is essentially cumulative in teaching the use of plural or single oxidizers. Lundstrom et al. '269 further exemplifies the use of a single fuel with a plurality of oxidizers, including perchlorates and nitrates, as in Tables 6 and 7, col. 10. Variation of particle size and specific ingredients would have been obvious to one of ordinary skill in the art. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163. Examiner Miller may normally be reached Monday-Thursday, from 10 AM to 7 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor Mr. Carone can be reached at (703) 306-4198.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
December 1, 2003



EDWARD A. MILLER
PRIMARY EXAMINER